

Minutes of the PIP-II/PXIE MPS meeting on September 11, 2015

Attendees:

B. Chase, P. Derwent, N. Eddy, M. Kucera, V. Lebedev, J. Patrick, V. Scarpine, A. Shemyakin, J. Steimel, G. Vogel, A. Warner

The meeting discussed the path to the Machine Protection System for PXIE and for PIP-II and interplay between them.

A. Shemyakin gave an introduction, and A. Warner described the architecture and reasoning for the MPS presently being developed for PXIE. Though we ran out of time to listen to G. Vogel presentation about the MPS of the Femilab complex, he explained some of its features. All three reports are available in PIP-II DB at

<http://pip2-docdb.fnal.gov/cgi-bin/ShowDocument?docid=24>

Several specific items were discussed.

1. Presently the main priority for the MPS development is a working system to protect PXIE elements as they are being added.
2. We need to write the next draft of the PIP-II MPS FRS. It should be a short document specifying primarily of levels beam losses that should trigger beam interruptions and time scales of the required beam disappearance. This is expected to be done in coming weeks. A. Shemyakin will initiate the process.
3. The present version of MPS FRS can work as a base for TRS, where the architecture and main components would be described. It would be preferable to have a draft in FY16 because it may affect decisions on PXIE MPS. A. Warner and J. Steimel will lead the TRS efforts.
4. It would be desirable to use PXIE MPS as a test bed for PIP-II solutions. However, it should not interfere with its primary goal of providing a safe PXIE operation.
5. The proposed MPS scheme uses OK/not-OK signals from relevant systems and is not expected to have its own instrumentation. These signals are propagated at hardware level and do not rely on ACNET. This scheme implies that the instrumentation should have the required setup tables, logic, and timing. Standards for communication and imbedded logic need to be agreed upon in TRS.
6. The PIP-II MPS will be part of a broader system for the Fermilab complex, which needs be taken into account already at the stage of writing the specifications.
7. The status of MPS development is expected to be discussed at PIP-II technical meeting in a month or so.